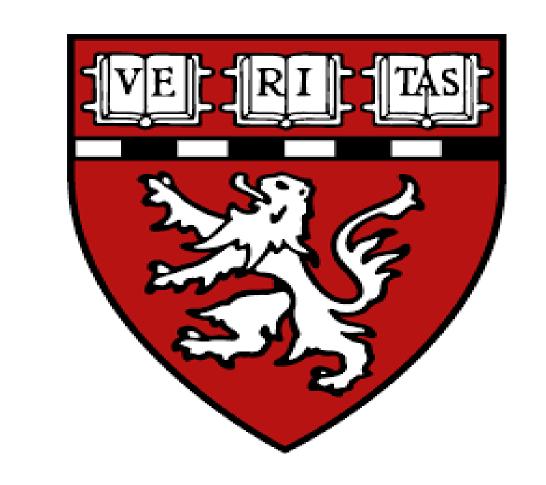


Role of Oncotype DX® Recurrence Score in Predicting Nodal Response after Neoadjuvant Chemotherapy in Breast Cancer



Alessandra Mele MD, Amulya Alapati MD, Ted A. James MD

Department of Surgery/ Breast Care Center, Beth Israel Deaconess Medical Center, Harvard Teaching Hospital, Boston, MA

ABSTRACT

- Sentinel lymph node biopsy (SLNB) in patients with clinically positive nodes undergoing neoadjuvant chemotherapy (NCT) has been evaluated in recent clinical trials.
- ➤ Patients who become clinically node negative following NCT may be candidates for SLNB.
- The appropriate selection of patients for this approach remains challenging.
- ➤ Previous studies have looked at factors predicting the likelihood of complete nodal pathologic response (pCR) after NCT.
- Studies are emerging exploring the role of Oncotype DX® in predicting response to neoadjuvant therapy; however, research to date is lacking specifically regarding the role of Oncotype DX® recurrence score (RS) in predicting nodal response after NCT.
- This study aimed to assess the association between low and high RS with nodal pCR.

Figure.	1 Patient Characteristic	S
Age group (years)	N	%
<40	13	8.23
40-54	63	39.87
55-69	63	39.87
>=70	19	12.03
Ethnicity		
Non-Hispanic white	114	72.15
Other	44	27.85
Pathological T		
Negative Pathology	10	6.33
Positive Pathology	148	93.67
Clinical T		
Τ1	49	31.01
Τ2	109	68.99
Clinical N		
C1	141	89.24
>/=C2	17	10.76
Grade		
Low/intermediate	105	66.46
High	53	33.54
Oncotype		
_ow risk	56	35.44
Intermediate risk	62	39.24
High risk	40	25.32

Figure 2. Nodal Response After Neoadjuvant Chemotherapy Among Clinical Variables						
Characteristic	p	pCR		pCR	p-value	
	N	%	N	%		
Clinical T						
T1	1	4.35	48	35.56	n-0 0028	
T2	22	95.65	87	64.44	p=0.0028	
Clinical N						
C1	20	86.96	121	89.63	n-0 7021	
>/=C2	2	13.04	14	10.37	p=0.7021	
Grade						
Low/ Intermediate	10	43.48	95	70.37	n-0 0116	
High	13	56.52	40	29.63	p=0.0116	
Oncotype						
Low risk	6	26.09	50	37.04		
Intermediate risk	6	26.09	56	41.48	p=0.0268	
High risk	11	47.83	29	21.48		

METHODS

- ➤The NCDB was used to identify patients with T1-T2, clinically N1/N2, ER-positive, HER2-negative invasive ductal carcinoma from 2010-2015 who underwent neoadjuvant chemotherapy and in whom an Oncotype DX® recurrence score (RS) was performed.
- ➤RS was classified as low (<17), intermediate (18-30), and high (>31).
- Chi square analyses were performed to determine association between clinical characteristic and nodal pCR.

RESULTS

- ➤Of 158 patients, RS was low in 35%, intermediate in 39%, and high in 25%.
- ➤ Nodal pCR occurred in a greater proportion of patients with high RS, compared with intermediate or low RS (48% vs. 26%, and 26%, respectively, p-value =0.027)

CONCLUSIONS

- ➤ Patients with high RS have greater rates of nodal pCR following NCT.
- This study shows promise in utilizing Oncotype DX® RS to identify breast cancer patients with clinically positive lymph nodes in whom a significant response to NCT can be anticipated, and who would be ideal candidates for SLNB as opposed to ALND.